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ABSTRACT

This booklet describes a way to bridge the information gap between the scientist and the non-specialist by outlining a system or network of resources, the people, places, and publications, found for one environmental study. Based on a Title I project to provide educational assistance to local planning boards in the coastal zone areas of Maryland, this booklet is a summary of the year's experience with the Environmental Advisory Committee of St. Mary's County and contains a model for a dynamic process of information transfer. The manual also suggests some techniques to try and some pitfalls to avoid so that the citizen can make the system of resources a dynamic one that will respond appropriately to individual needs. (Author/MA)

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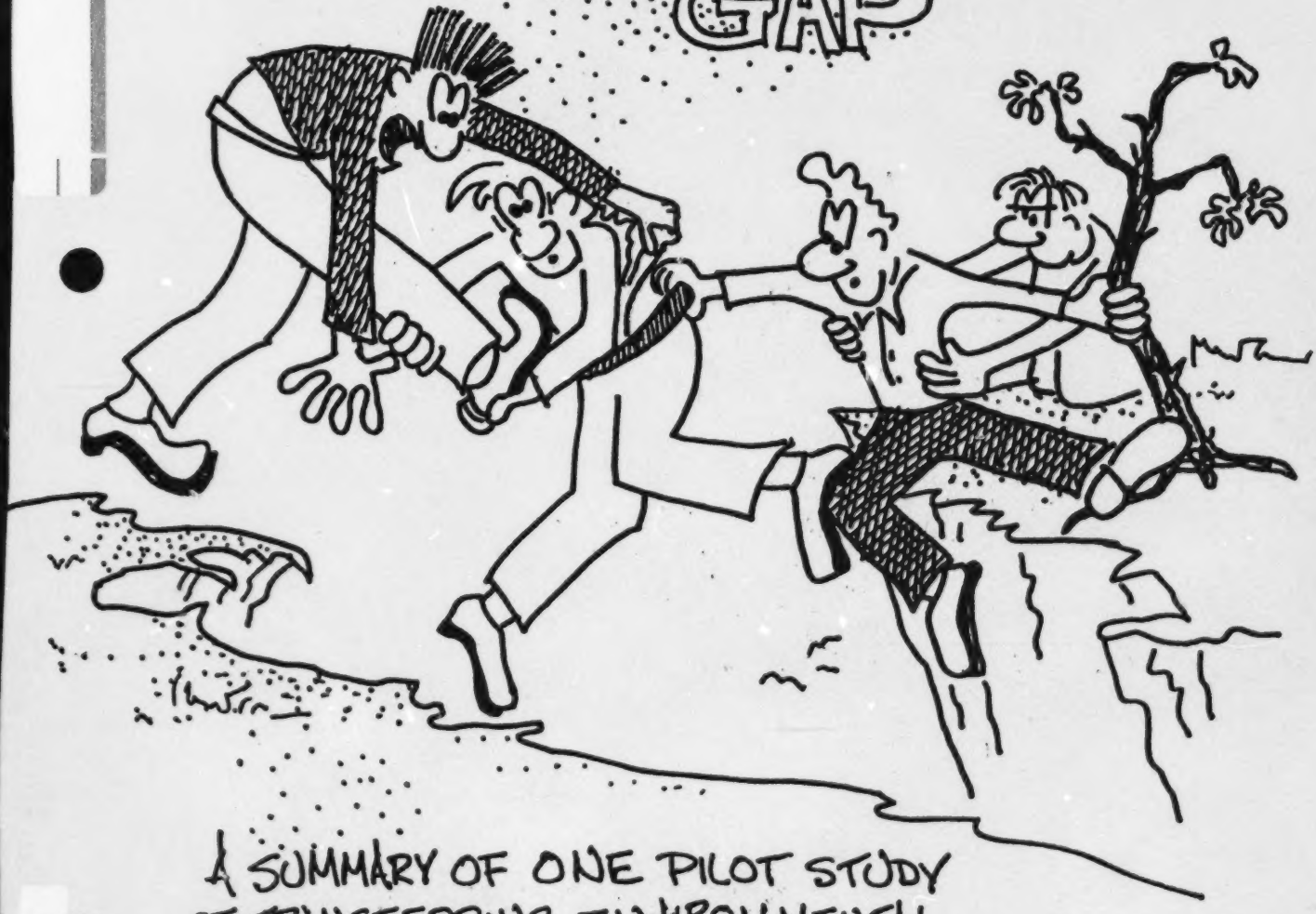
A CITIZEN'S MANUAL:

BRIDGING THE INFORMATION GAP



A SUMMARY OF ONE PILOT STUDY OF TRANSFERRING ENVIRONMENTAL INFORMATION BETWEEN THE CITIZEN AND THE SPECIALIST.

SE 023 120

Illustrated by: AUGIE SELCKMANN

UNIVERSITY OF MARYLAND
CENTER FOR ENVIRONMENTAL AND ESTUARINE STUDIES

EDUCATIONAL ASSISTANCE TO LOCAL PLANNING BOARDS IN THE COASTAL ZONE AREAS OF MARYLAND

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Summer, 1976

Dear Reader:

If you are on the Planning Board or Board of County Commissioners, have you ever been in need of some technical or scientific information to weigh the merits of or substantiate a decision to be made, or to answer citizens' questions of why, or why not? Or if you are a community minded citizen and/or property owner have you ever wanted such information for some reason - perhaps for a hearing? And then, when you went looking for it, did you have trouble locating the agency, the specialist, or the report you needed?

If you've ever tried you may have experienced this frustration: You know it's out there somewhere - tons of information from all the research sponsored by federal, state, and educational agencies - but there doesn't seem to be a way of getting it from there to here when you need it. You only have so much time and money, but while you're willing to spend some of both, you hate to waste them on such exercises in futility as the "telephone tango" or "pig in a poke". You know, when you call (long distance, often as not) the ---- Agency, the first person who answers gives you another number, and that person (or the next one) suggests that you call the first number. And then you may see the title of a book or report that seems to be exactly what you wanted, but after you've purchased it, you find it largely unusable - too comprehensive or too specialized, too difficult for you, the non-specialists.

So what can you do?

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This booklet outlines one response to that question. It describes a way to bridge the information gap by outlining a system or network of resources - the people, places and publications found for one environmental study. The manual also suggests some techniques to try and some pitfalls to avoid, so that you, the citizen, can make the system a dynamic one that will respond appropriately to your individual needs.

Sincerely,

Patricia A. Maher

Patricia A. Maher, Educational Specialist
Title I Project

Dixie A. Pemberton

Dixie A. Pemberton, Associate Professor
Director of Title I Project

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INTRODUCTION

First of all, is there a problem in the sharing of scientific and technical information with the citizen? Is there a pressing need for agencies to have more flexibility in responding to his or her specific information needs? Many citizens answer yes to both questions.

Citizens are more concerned than ever in making decisions about critical environmental issues especially at the local level. They are aware that scientists and professionals know how to tap the information resources network of people, places and publications and are active participants in a dynamic system of information transfer. Specialists are able to use many sources of information and shape priorities in environmental policy. Citizens need similar access to information resources and similar power in making their priorities known.

But they, as non-specialists, are treated by large resource agencies as passive receivers. Too often, agencies seem to fulfill their public information mandate through a one-directional information dissemination path. They send technical reports by scientists for scientists to large information depositories and specialized libraries, and for the "average" citizen distribute pamphlets or booklets describing agency activities and projects in general terms.

A Title I project to provide educational assistance to local planning boards in the coastal zone areas of Maryland helped one citizens group experience a more flexible response by federal, state and educational institutions which extended their process of transferring environmental information to citizens. This booklet is a summary of the year's experience with the Environmental Advisory Committee of St. Mary's County which proved to be one model for a dynamic process of information transfer. The project staff hopes that the examples in this manual of how the process evolved with one group may prove useful to others.

THE ENVIRONMENT
AN ACCUMULATION OF EVERY EXISTING FRAGMENT OF ANY INFORMATION DEALING DIRECTLY OR INDIRECTLY WITH THE ENVIRONMENT.

THE PROBLEM: WHAT DO I WANT TO KNOW?

For a citizen approaching a large agency for information this is perhaps the key question and the chief reason he or she may have experienced the "telephone tango" described earlier. Most specialists interviewed in this project, from librarians to scientists to agency personnel, cited a lack of precision in the original question as a prime source of confusion and delay. The expert knows there is a wealth of material on the subject and a number of departments devoted to some aspect of it but can not adequately help you because your question is too broad. Non-specific questions may also elicit information that you don't want. Agencies in their attempt to respond may send you the "wrong" information--that is, the answer to the question or some part of the question they thought you asked. So be as specific as you can in deciding what you want to know. That is the key to unlocking the right doors.

The Environmental Advisory Committee (EAC) wanted to address the problem of water pollution caused by failing septic tanks and limited public sewerage facilities in a county experiencing extensive in-migration from metropolitan centers. At the request of the County Commissioners they decided to study alternatives in on-site sewage disposal. Citizens had questioned the Commissioners about innovations they read of in newspaper and magazine articles with such eye-catching headlines as "A Sewerless Society" and "New Aerobic Units May Replace Problem Prone Septic Tanks."

They defined the limits of their inquiry to individual residential homes or communities not served by public sewerage facilities. After a discussion of the conditions and principles involved in disposal: anaerobic, aerobic, infiltration, evapo-transpiration, they then divided the study into five sections:

1. aerobic units such as Bi-A-Robi, Flygt
2. toilets - chemical, incinerator, Clivus Multrum,Little John
3. spray irrigation - land application of sewage effuent
4. evapo-transpiration of wastewater
5. watercraft sewage disposal facilities

In this way, one or two members worked on a major area and could route any other relevant information they found to the ones responsible for that area. They also incorporated into the study considerations of the feasibility of the alternatives in terms of initial cost, maintenance, engineering and physical limitations or constraints.

Similarly in another request by the Commissioners to comment on the environmental aspects of a concept plan for a large residential development on a narrow peninsula, the EAC divided the report into work units of flood plain, public and private wetlands, soil types and limitations, and potential effects on nearby highly productive oyster beds. In both cases, the general problem was broken down into manageable units for each member about which he or she could then make specific information requests.

LIBRARY
INFORMATION
PUBLICATIONS
AGENCY A-G
AGENCY F-R

THE INFORMATION SOURCES: WHOM DO I ASK? WHERE DO I GO?

When asked how they presently obtained technical information citizens most frequently replied that they called someone they knew, or knew of, who might be able to help. That is a good procedure for two reasons. One, a person you know is often more willing to help, and will definitely help you clarify the particulars of your information needs if you have only a general knowledge of what you are looking for. A local specialist or agent or educator is most often familiar with your locality and the situation which prompts your request.

Secondly, by first seeking information locally, your search farther from home is better directed and guided by the assistance you have already received. That way the time you spend and the distance you travel to go farther afield will be more effectively utilized. You will have gotten from your local contacts the specific office in the state or federal agency or university to which you should direct your inquiry, or better yet, the name of a person there you should talk with.

But what if you haven't been able to find this out locally? There are several alternatives: call the public information office of the agency in order to find out which section deals with your subject, who is in charge, his address and telephone number, and how you can get an appointment with someone to help you. That way you will

avoid the pitfall of being shunted aside or hurriedly handled by someone who wasn't prepared to respond to your particular question and who may be fitting you into an already crowded schedule.

The second alternative is: once you have obtained the name and section write a letter to that person requesting information followed in two weeks by a telephone call if you have not yet received a response.

In the on-site sewage disposal study the EAC had two agencies in the county which dealt with sewage: the Metropolitan Commission and the County Health Department. The Metropolitan Commission was not called on for the project study since it was primarily concerned with public sewerage facilities. But Walter Raum, the Director of Environmental Hygiene, had already obtained company produced booklets and brochures about experimental toilets and aerobic systems which were then turned over to the committee members responsible for those sections of the study. At the Tri-County Council for Southern Maryland (a regional agency which serves, in part, St. Mary's County), their comprehensive Health Planner, Dr. R. E. Tiller, referred us to the Charles County Community College Pollution Abatement Technology Library in addition to providing important resource materials. George Wheeler of the Southern Maryland Resource Conservation and Development Project of the USDA also serving the same region brought to our attention the spray irrigation project underway at St. Charles, a fairly new residential community.

We then contacted the Environmental Health Administration of the Maryland Department of Health and Mental Hygiene in Baltimore where Morris Hennessey and Norm Lowry told us of a forth-coming regional workshop on our subject and gave us the names of pertinent reports and studies. The Citizens Program for the Chesapeake Bay Annual Meeting in Annapolis gave us the opportunity to see a slide presentation of Merrill B. Glasser's two-year experimental field study for the EHA on aerobic units in Garrett County. The Recreational Boating Impacts Study published by the Coastal Zone Management Program of the Department of Natural Resources provided reference bibliography and abstracts about watercraft and marina sewage facilities.

The University of Maryland Center for Environmental and Estuarine Studies provided copies of the Penn State Wastewater Studies, Dr. Chu-fa Tsai's explanations about some of the more difficult technical terms, and on-site inspection of an evapo-transpiration research project at our Horn Point headquarters in Cambridge. On their recommendation we purchased a copy of Alfred P. Bernhart's book on evapo-transpiration. We also purchased the Proceedings of the National Home Sewage Disposal Symposium sponsored by the American Society of Agricultural Engineers. Dr. Fred Miller of the University of Maryland Department of Agronomy was especially helpful with reports and bibliographical material.

Our ever widening circle of inquiry led us from local to regional to state agencies. At each step the persons contacted gave us immediate assistance and further leads.

From the contacts in the Washington Metropolitan area we also obtained research project information from Montgomery County, Maryland and Fairfax County, Virginia. Our first attempt by telephone to obtain information directly from the Environmental Protection Agency failed because we were not specific enough in our inquiries. We now know their Public Information Office has specialists that deal with technical information inquiries both by telephone and correspondence. We received from them an Indexed Bibliography of Office of Research and Development Reports. Through the EPA Region III office in Philadelphia we obtained free copies of three recently published technical reports on Wastewater Treatment. Similarly our first approach to the Government Printing Office yielded nothing until we learned to use their reference system. We also learned from them that most government technical and scientific publications could be purchased through the National Technical Information Service of the Department of Commerce. Later we obtained two subject listings, one for waste water treatment and the second for solid waste management, both of which yielded some pertinent report titles.

BOOKMOBILE
BYE
BYE

THE PUBLICATIONS SEARCH: HOW CAN I GET THE PUBLICATION I WANT?

The printed material such as reports, articles, and pamphlets supplied by the people and places you have already contacted may be sufficient for your needs. But what if it is not? How else can you go about getting the technical and scientific information you require? Have you thought about using your local library or bookmobile? The most underutilized local resource agency discovered in this project year was the library system of the State of Maryland. Because many of us haven't used the library and its specialists for research since our school days a refresher on steps involved--the EUREKA process I call it--is in order.

Again you start with a well defined problem giving the librarian sufficient information for her to request a "subject" search through the Interloan Service based at the Enoch Pratt Library in Baltimore. Better yet, if you have titles and authors of particular works the library can begin with those and then search for others in the same subject area. The obvious advantage to you is that the library lends you the materials, you don't have to buy them and in the case of articles from scientific journals and periodicals, the library will even xerox copies of pertinent articles with minimal or no cost. If you have obtained a list of books and articles (a bibliography) from other sources the library will try to provide those works for you if they are anywhere in the system.

The EAC had gotten many of the publications they needed through the specialists and agencies already contacted. They had also received significant input to guide them in a responsible use of the written word.

Theoretical scientific work and pie-in-the-sky popular articles were balanced by actual research applications in the field. Too technical reports were either set aside as inappropriate to EAC's purpose or when essential further explained by a specialist. But there were some reports still considered necessary and for these the EAC used the local library or bookmobile.

In surveying the literature in the field of on-site sewage disposal it was decided to search for recently published articles in periodicals such as the Journal of Environmental Quality or the Journal of Water Pollution Control or the Journal of Environmental Health. We used Water Pollution Abstracts and Selected Water Resources Abstracts in the Engineering and Physical Sciences Library at the University of Maryland at College Park. These abstracts list under subject headings the title, author, and source of the article. We brought that information to the local libraries with the name of the abstract we had first used. The return on articles requested averaged 40% - 60% within two weeks, i.e., most of the EAC members, asking for five articles, got two or three within two weeks.

Large information depositories such as the National Technical Information Service (from which Environmental Protection Agency technical reports may be purchased) provide a computerized data base search service containing an annotated bibliography of a given subject for a fee. If you have more limited time than money this may be useful. In the environmental sphere the ENDEX/OASIS search service of the National Oceanic and Atmospheric Administration is recommended as more reasonable and more comprehensive than NTIS. Be sure to get an estimate of the cost before you order a search

and be sure you have given the information specialist an exact idea of the scope of the subject, data base to be used, and time frame.

The steps then in developing a bibliography for a given subject would be:

1. Ask your local librarian (use Interloan Service).
2. Use a college or university special library such as CCCC Pollution Abatement Technology Library or Technology and Science Reference Room of McKeldin Library, UMCP, or Engineering and Physical Science Library, UMCP.
3. Use a computer based search service such as NTIS or ENDEX/OASIS.

Of course, once you know the titles of what you want, first choice again is the local library's Interloan Service. Some technical reports or articles may be available for xeroxing at university libraries. Government reports are available for purchase through the Government Printing Office or NTIS. The Department of Natural Resources library in Annapolis has microfiche copies of many EPA reports which may be read there or printed for a fee.

The standard EAC procedure was to beg, borrow and then, if necessary, buy. We found it a poor idea to buy if all you know is that the title looks good.

Your local library should have copies of the Maryland Manual for state agency names, addresses and divisions. It should also have the Maryland

Association of Counties Directory of Officials. For federal agencies and non-profit organizations the Congressional Quarterly's Washington Information Directory is an invaluable reference book. Armed with names, addresses and information numbers you can then compile your own information bank. Many federal and state agencies distribute agency charts, directories, newsletters, and lists of publications on request. The non-governmental organizations listed in the Energy or Environment sections of the Washington Information Directory frequently maintain special libraries or information centers, and their staffs are often excellent sources of information. They also distribute materials and lists of publications free of charge. The reference information you save up in this bank will pay interest because you will already know where to start and whom to contact when you have a specific information need.

THE RESPONSE: HOW CAN I EFFECTIVELY SHARE IT?

The uses the citizen or citizens group makes of technical and scientific information are individual and varied. By upgrading your own expertise and wrestling with the scientist's or agency's viewpoint on current environmental concerns and possibilities you may reach a greater understanding of the complexities of issues in which policy decisions must be made. You may, armed with a substantive factual knowledge base, affect the course of planning and land use decisions in your community. By engaging in this educative process citizens at all levels can effectively participate in, and guide the efforts of, state and federal agencies established to serve them.

The Environmental Advisory Committee gives in one short year three examples of how they accomplished this:

In their on-going study of the possibilities for alternatives in on-site sewage disposal they upgraded their capacity to use local as well as state resource agencies and personnel. They read of, listened to, and saw for themselves the pros and cons of aerobic systems, innovative toilets and use of evapo-transpiration beds.

In the Newtown Neck Report, Tucker Brown, a waterman, obtained from the Department of Natural Resources computer print-outs of recent annual yields in bushels and dollar value from oyster beds within a 1-2 mile radius of Newtown Neck. He then prepared a graphic, statistical, and narrative report to document the potential economic cost of the lost

oyster harvest if the beds were disturbed or destroyed. For the same report Florence Ballangee consulted John Hall of the Soil Conservation Service for information on the soils section of the report. She used the site specific concept plan to show the percent of area of each soil type, and their limitations in regard to development. These, along with other sections developed by Orin Wilkerson and Jerome Swann, made the report a substantive contribution to enable the Commissioners to weigh the environmental, ecological and economic considerations necessary to promote responsible development.

Originally part of the on-site sewage disposal alternatives study, the unit on spray irrigation (land application of sewage effluent) was the first to be completed. Not only was the information network fully used but the information generated did not end with a report to the Commissioners. The Environmental Advisory Committee members then went on to organize a seminar for citizens in the Tri-county area to share with them the knowledge gained about spray irrigation's potential usefulness. They have invited representatives from state and federal agencies, specialists in soils and microbiology, and operators of a successful land applications system to participate. Their seminar's purpose is to give citizens a good basis for evaluating whether or not this type of sewage handling can be adopted in parts of St. Mary's County, enabling them, once informed, to participate more effectively in the planning process.

The On-site Sewage Disposal Study, the Newtown Neck Report, and the Land Application of Sewage Effluent Seminar show the developmental stages

of growth in the functions the EAC could assume. In terms of the actual, or site specific capacity of the environment, they provided through information they generated in-depth immediate and long-range alternatives for planning.

THE RECOMMENDATIONS: WHAT ELSE CAN I DO WHEN I HAVE IT?

Earlier sections of this manual show how one model group in a pilot project not only tapped into the information network in the passive sense of receiving information, but also how that group stimulated agencies to provide assistance and shape the information according to the group's need, enabling them, in turn, to share the knowledge gained so that other citizens became actively involved in seeking practical solutions to community problems. Observations from that and other experiences during the project year of how meaningful transfer of environmental information takes place prompt the following suggestions:

For Planners and Decision-makers

As County Commissioners and Planning Board members you face issues that involve many fields of expertise. Advisory boards and committees like the EAC could provide the technical and scientific information you need for balanced decisions in useful form. As county officials you probably receive numerous and lengthy reports or studies from other agencies which you do not have time to digest. Qualified citizen volunteers could assist you by preparing short summaries for the Board.

Another recommended aid that allows newly appointed board members to learn the basics of land use planning on their own time is the Land Use Decision Making Kit produced by E-P Education Services, 21 Merritt Street, Hamden, Connecticut 06511. The

thirteen units contain tapes, slides and guidesheets that teach local decision makers to analyze data, predict the effect of development upon various land types, and the basic concepts of ecology, geology, economics and geography as they relate to land use planning.

For Committees and Citizens Associations

Most of the effective committees and associations we observed were successful because the membership were actively engaged in a meaningful and timely task. Too often other environmental groups were short-lived because they were formed to respond to a particular environmental crisis. When the issue was decided they were dissolved. You can maintain the enthusiasm generated through working together in a good cause if your group continues to be involved through studies addressing important, although longer-range planning issues in your field of interest. In this way your group can serve as a forum for the information needs of your community.

For the Individual Citizen

So much so-called citizen apathy is really frustration brought on by the seemingly insurmountable obstacles found in trying to change the system by yourself. One step in upgrading your capability is to attend workshops, seminars, or conferences in your area on pertinent environmental issues and problems. Such meetings are valuable learning tools because they usually give the citizen an overview of the network of resources surrounding a given issue.

Scientists and agency personnel are there to provide information and answer questions and frequently written materials are distributed. For example, in St. Mary's the adult education and extension programs jointly sponsored a Land Use Seminar. The Tri-County Council sponsored a Groundwater Conference. The Coastal Zone Management Program and the Environmental Health Administration also conducted regional meetings on aspects of their particular programs.

Once you become familiar with the work of groups in your area you may wish to join one. As a member of an active citizens association or committee your ability to contribute ideas and opinions is enhanced. You also benefit by ideas and information developed within the group. But as an individual you can express your concern at hearings. Hearings can be a mixed blessing sometimes generating more heat than light. But an alert and informed citizen can often play a significant role even this late in the planning process. Planning Board members and County Commissioners welcome testimony that brings their attention to potentially costly mistakes and oversights. The level of citizen interest and participation can affect the quality of a decision. Encourage your local newsmedia to report on local issues. In counties where local papers and radio stations are encouraged to keep citizens alerted to significant events and report regularly on local government activities the citizen once informed can prepare to take effective action long before a hearing or a crisis is imminent.

HELP!

Afterword

This manual is the framework for a more comprehensive handbook that, with future funding, we plan to develop. We would welcome comments on the contents of this booklet and suggestions for the forth-coming handbook.

The Authors